

Before the
FEDERAL COMMUNICATIONS COMMISSION
 Washington, DC 20554

In the matter of)

Cellular Service and Other)
 Commercial Mobile Radio)
 Services in the Gulf of Mexico)

WT Docket No. 97-112

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FILED IN 97-112
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Amendment to Part 22 of the)
 Commission's Rules to Provide for)
 Filing and Processing of Applications)
 for Unserved Areas in the Cellular)
 Service and to Modify Other)
 Cellular Rules)

CC Docket No. 90-6

To: The Commission

REPLY COMMENTS

Wireless One, Inc. ("Wireless One") and Heartland Wireless Communications, Inc. ("Heartland") (collectively, the "Wireless Cable Commenters"), by their attorneys and pursuant to Section 1.415(c) of the Commission's Rules, hereby reply to that portion of the comments filed by the American Petroleum Institute ("API") in which API urges the Commission to grant the May 21, 1996 Petition for Rulemaking (the "Petition") filed by Gulf Coast MDS Service Company ("Gulf Coast MDS") proposing the establishment of a Basic Trading Area ("BTA")-like Multipoint Distribution Service ("MDS") service area for the Gulf of Mexico.^{1/}

The Wireless Cable Commenters are wireless cable system operators with substantial

^{1/}See "Pleading Cycle Established for Comments on Petition for Rulemaking to Amend Parts 21 and 74 of the Commission's Rules to Permit Licensing in the Multipoint Distribution Service and Instructional Fixed Service for the Gulf of Mexico," *Public Notice*, DA 96-1721 (rel. Oct. 17, 1996).

operations along the Gulf of Mexico, who expended millions of dollars for MDS BTA authorizations bordering the Gulf, and who would be adversely affected were the Commission to now, long after the close of the MDS auction, establish a BTA-like MDS service area for the Gulf.^{2/}

Simply stated, the Wireless Cable Commenters are concerned that this proceeding is being used by API (whose counsel also represents Gulf Coast MDS) as a vehicle to "end run" the notice and comment process applicable to proposals such as that made in the Petition.^{3/} The Commission should recognize that the rule changes required to create a BTA-like MDS service area in the Gulf of Mexico are well beyond the scope of the instant proceeding and require the initiation of a separate rulemaking proceeding. The *Second Further Notice of Proposed Rule Making* pursuant to which the API Comments were filed is limited to considering possible changes in the service rules for cellular and Commercial Mobile Radio Service providers.^{4/} In effect, API urges the Commission to disregard the Administrative Procedure Act by granting Gulf Coast MDS's Petition in the context of the instant rulemaking, despite the fact that the licensing of MDS

^{2/}Collectively, the Wireless Cable Commenters have been awarded MDS BTA authorizations for 12 of the 21 BTAs bordering the Gulf of Mexico, for which they have committed to pay the United States Treasury a total of \$5,515,678.00.

^{3/}The Wireless Cable Commenters note that API did not serve a copy of its Comments upon them, despite the fact that counsel to API and Gulf Coast MDS are one and the same and is well aware of the Wireless Cable Commenters' participation in the Petition proceeding.

^{4/}See *Cellular Service and Other Commercial Mobile Service Radio Services in the Gulf of Mexico and Amendment of Part 22 of the Commission's Rules to Provide for Filing and Processing of Applications for Unserved Areas in the Cellular Service and to Modify Other Cellular Rules*, WT Docket No. 97-112 and CC Docket No. 90-6, FCC 97-110, at ¶ 1 (rel. April 16, 1997).

stations in the Gulf is far beyond the scope of this proceeding.^{5/}

More importantly, for the reasons set forth by the Wireless Cable Commenters in response to the Gulf Coast MDS Petition, grant of that Petition in any proceeding would be contrary to the public interest.^{6/} The Wireless Cable Commenters made clear in their Opposition to the Petition and subsequent filings that the grant of the Petition would be fundamentally unfair to the Wireless Cable Commenters and others who participated in the Commission's auction of MDS authorizations.^{7/} Now that the Commission has conducted an auction for MDS BTA authorizations and the Wireless Cable Commenters and others have valued and paid for BTAs bordering the Gulf of Mexico on the basis that there would be no potentially-interfering signals originating from the Gulf, adoption of Gulf Coast MDS's petition would be fundamentally unfair.^{8/} To grant Gulf Coast MDS's Petition is to undercut the assumptions regarding potential interference upon which the auction participants relied when making their bids, and could

^{5/}Under the Administrative Procedure Act, a court will deem an agency notice of the proposed rule inadequate where the final rule is not a "logical outgrowth" of that which was proposed. *See* 47 U.S.C. § 553(b)-(c) (requiring notice of proposed rule) *and Small Refiner Lead Phase-Down Task Force v. EPA*, 705 F.2d 506, 546-47 (D.C. Cir. 1983) (holding that final rules must be a 'logical outgrowth' of the proposed regulations). *See also Home Box Office, Inc. v. FCC*, 567 F.2d 9, 36-40 (D.C. Cir.), *cert. denied*, 434 U.S. 829 (1977) (cable regulations overturned on the grounds that the Commission had failed to give adequate notice and opportunity for comment).

^{6/}The Wireless Cable Commenters position is contained in its November 18, 1996 Opposition and letters of December 17 and December 30, 1996 from Paul J. Sinderbrand to William F. Caton, in DA 96-1721, copies of which are appended hereto as Attachment A.

^{7/}*See supra*, note 2.

^{8/}*See* Letter from Paul J. Sinderbrand to William F. Caton, DA 96-1721, at 2 (filed Dec. 30, 1996).

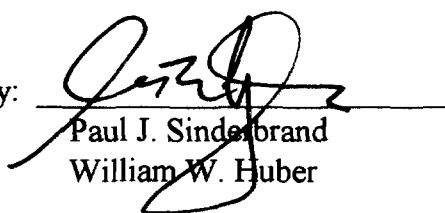
jeopardize the ability of the Wireless Cable Commenters and the other holders of Gulf coast BTA authorizations to provide service to the approximately 16.7 million Americans who reside in BTAs bordering the Gulf of Mexico.

WHEREAS, for explained more fully in their filings in response to the Gulf Coast Petition, the Wireless Cable Commenters request that the Commission reject the proposal advanced by Gulf Coast MDS and supported by API.

Respectfully submitted,

WIRELESS ONE, INC.
HEARTLAND WIRELESS
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By:



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August 4, 1997

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ATTACHMENT A

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the matter of

GULF COAST MDS COMPANY

Petition for Rule Making

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DA 96-1721

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

OPPOSITION TO PETITION FOR RULE MAKING

WIRELESS ONE, INC.
HEARTLAND WIRELESS
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November 18, 1996

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EXECUTIVE SUMMARY

Wireless One, Inc. and Heartland Wireless Communications, Inc. (collectively, the "Wireless Cable Commenters"), two long-time wireless cable operators with substantial existing operations along the Gulf of Mexico, oppose the Petition for Rule Making filed by Gulf Coast MDS Service Company ("Gulf Coast MDS") proposing the establishment of a Basic Trading Area ("BTA")-like Multipoint Distribution Service ("MDS") service area for the Gulf of Mexico. The adoption of Gulf Coast MDS's proposal would undermine the recently-concluded MDS BTA auction process to the detriment of the Wireless Cable Commenters and consumers. In effect, Gulf Coast MDS is asking the Commission to reconsider the MDS auction rules after the auction has taken place.

The Wireless Cable Commenters have committed to pay the U.S. Treasury in excess of \$5.5 million dollars for BTA authorizations along the Gulf coast in reliance on the fact that there was no Gulf of Mexico BTA-like service area. Due to the interdependence of BTAs, bidders were often required to bid upon adjoining BTA authorizations in order to secure usable facilities within one of the adjoining BTAs. In developing bidding strategies, the Wireless Cable Commenters and other bidders ascribed much higher values to new channels in the BTAs bordering the Gulf coast precisely because there was no Gulf of Mexico BTA-like service area that would have to be acquired in order to secure usable channels. Indeed, analysis of final auction round results shows that the high bids for all 21 BTAs bordering the Gulf of Mexico were almost double those for the 472 BTAs and BTA-like areas that did not border the Gulf of Mexico, when considered on a bidding unit basis.

Further, adoption of the rules proposed by Gulf Coast MDS would substantially reduce the ability of the Wireless Cable Commenters and others to provide wireless cable service to the 16.7 million Americans who reside in BTAs bordering the Gulf of Mexico. Due to the unusual propagation characteristics of microwaves over the Gulf of Mexico, difficult electrical interference issues will be faced not just by those that propose to operate in the Gulf of Mexico, but also those that operate on land near the Gulf Coast and must protect operations in the Gulf of Mexico.

Finally, Gulf Coast MDS has failed to demonstrate that the benefits of a Gulf of Mexico BTA-like service area outweigh the substantial adverse impact that will be imposed on the ability of the Wireless Cable Commenters and others to serve the 16.7 million residents of BTAs bordering the Gulf.

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the matter of)	
)	
GULF COAST MDS COMPANY)	DA 96-1721
)	
Petition for Rule Making)	

OPPOSITION TO PETITION FOR RULE MAKING

Wireless One, Inc. ("Wireless One") and Heartland Wireless Communications, Inc. ("Heartland") (collectively, the "Wireless Cable Commenters"), by their attorneys and pursuant to the Commission's October 17, 1996 *Public Notice*, hereby oppose the May 21, 1996 Petition for Rule Making (the "Petition") filed by Gulf Coast MDS Service Company ("Gulf Coast MDS") proposing the establishment of a Basic Trading Area ("BTA")-like Multipoint Distribution Service ("MDS") service area for the Gulf of Mexico.^{1/}

I. STATEMENT OF INTEREST AND SUMMARY.

The Wireless Cable Commenters are both long-time wireless cable system operators with substantial existing operations along the Gulf of Mexico who will be adversely affected if the Commission establishes a BTA-like MDS service area so Gulf Coast MDS can provide voice and data services for the benefit of the oil and gas industries.

Wireless One currently operates 29 wireless cable systems and is in the process of

^{1/}See "Pleading Cycle Established for Comments on Petition for Rulemaking to Amend Parts 21 and 74 of the Commission's Rules to Permit Licensing in the Multipoint Distribution Service and Instructional Fixed Service for the Gulf of Mexico," *Public Notice*, DA 96-1721 (rel. Oct. 17, 1996).

developing an additional 51 systems. Since its acquisition earlier this year of TruVision Wireless, Inc., Wireless One is by far the largest wireless cable system operator serving areas near the Gulf of Mexico. Wireless One is currently providing wireless cable service to residents of Panama City, FL, Fort Walton, FL, Pensacola, FL, Biloxi, MS, Houma, LA, Bucks, AL, Lake Charles, LA, and Lafayette, LA and surrounding areas, all of which are located on or in close proximity to the Gulf coast.^{2/} Wireless One is also developing several other wireless cable systems to serve communities near the Gulf of Mexico. In connection with these various wireless cable systems, Wireless One has secured eleven contiguous MDS BTA authorizations along the Gulf of Mexico, running from the Texas-Louisiana border to North Florida.^{3/} Heartland, meanwhile, is the operator of 48 wireless cable systems, and is developing systems in an additional 47 markets nationwide. Heartland operates a wireless cable system serving Corpus Christi, TX, and is the holder of the Corpus Christi BTA authorization, which borders the Gulf of Mexico.

Collectively, the Wireless Cable Commenters have been awarded MDS BTA authorizations for 12 of the 21 BTAs bordering the Gulf of Mexico, for which they have committed to pay the United States Treasury a total of \$5,515,678.00. As is more fully explained below, the adoption of Gulf Coast MDS's proposal would substantially reduce the value of the

^{2/} Wireless One not only provides service to those on land, but also provides wireless cable service to sailors aboard U.S. Navy ships in the Gulf of Mexico.

^{3/} These BTAs are: Lake Charles, LA (B238), Lafayette-New Iberia, LA (B236), Houma-Thibodaux, LA (B195), New Orleans, LA (B320), Biloxi-Gulfport, MS (B042), Mobile, AL (B302), Pensacola, FL (B343), Ft. Walton Beach, FL (B154), Panama City, FL (B340), Tallahassee, FL (B439) and Gainesville, FL, (B159).

Gulf coast BTA authorizations that the Wireless Cable Commenters have purchased, could result in interference to the reception of wireless cable service by subscribers to wireless cable systems along the Gulf of Mexico, and could force the Wireless Cable Commenters to reduce service to their subscribers in order to avoid interference to a future Gulf of Mexico BTA authorization holder. As such, Wireless Cable Commenters have a keen interest in the outcome of this proceeding.

II. ADOPTION OF GULF COAST MDS'S PROPOSAL WOULD UNDERMINE THE RECENTLY-CONCLUDED MDS BTA AUCTION PROCESS TO THE DETRIMENT OF THE WIRELESS CABLE COMMENTERS AND CONSUMERS.

Now that the Commission has concluded the auctioning of MDS BTA authorizations, fundamental fairness to the Wireless Cable Commenters and others who bid for BTAs bordering the Gulf of Mexico requires that the Commission reject Gulf Coast MDS's proposal for the establishment of a new BTA in the Gulf of Mexico so that Gulf Coast MDS can provide voice and data communications services to the oil and gas industries.

In effect, Gulf Coast MDS is asking the Commission to reconsider the MDS auction rules after the auction has taken place. Of course, the timing of Gulf Coast MDS's request is curious. Although the Commission solicited comments from the public as to what service areas should be utilized in auctioning MDS authorizations,⁴ Gulf Coast MDS remained silent. And, although

⁴See Amendment of Parts 21 and 74 of the Commission's Rules with Regard to Filing Procedures in the Multipoint Distribution Service and Instructional Television Fixed Service and Implementation of Section 309(j) of the Communications Act - Competitive Bidding, 9 FCC Rcd 7665, 7669-71 (1994).

interested parties had an opportunity to petition for reconsideration once the Commission released its June 30, 1995 *Report and Order* in MM Docket No. 94-131 and PP Docket No. 93-253 establishing 493 BTAs and BTA-like geographic areas for the MDS auction, Gulf Coast MDS again failed to speak. Only once the Wireless Cable Commenters and others have purchased BTA authorizations along the Gulf coast at prices that reflect the lack of a BTA covering the Gulf of Mexico, did Gulf Coast MDS come forward. Its failure to propose a Gulf of Mexico BTA earlier is certainly suspicious. Gulf Coast MDS admits to being an affiliate of S&P Cellular Holding, Inc., a company that has been providing cellular telephone service in the Gulf of Mexico since before the Commission even began considering an MDS auction system. As a result, Gulf Coast MDS was presumably aware of the communications needs of the oil and gas industries in that region throughout the pendency of MM Docket No. 94-131 and PP Docket No. 93-253. Although the Wireless Cable Commenters can only speculate, it certainly appears that Gulf Coast MDS's intentionally withheld its proposal until after the MDS auction in order to secure some sort of strategic advantage.

Whatever Gulf Coast MDS's motives, the fact remains that Gulf Coast MDS is advancing its proposal long after the conclusion of an auction in which the Wireless Cable Commenters and others relied on the lack of a Gulf of Mexico BTA in agreeing to pay several millions of dollars for those BTAs that border the Gulf. Quite frankly, and as will be discussed in more detail below, because of the speculative demand for MDS spectrum in the Gulf of Mexico and the severe interference protection problems that are raised by the use of MDS spectrum over large

bodies of water, the establishment of a Gulf of Mexico BTA would have been a bad idea even if proposed in timely fashion. At this late date, it is an abysmal idea that should be promptly rejected.

A. The Wireless Cable Commenters And Others Relied To Their Detriment On The Fact That There Was No Gulf of Mexico BTA In Bidding For BTAs Bordering The Gulf Coast.

As noted above, the Wireless Cable Commenters have committed to pay to the U.S. Treasury millions of dollars for BTA authorizations along the Gulf coast as a result of the simultaneous multiround auction that concluded just months ago. Like most auction participants, the Wireless Cable Commenters had already secured access to a substantial number of channels in communities along the Gulf coast through the acquisition or leasing of incumbent MDS stations and through the leasing of excess capacity on Instructional Television Fixed Service ("ITFS") stations. The Wireless Cable Commenters participated in the auction process to secure the right to add the few MDS channels still available to their systems since, as the Commission is well aware, "wireless cable operators endeavoring to compete with wired cable systems, whose number of channels often exceeds 50, must have access to as many of the available 32 or 33 ITFS and MMDS channels as possible in a given market."^{2/}

In developing a bidding strategy and establishing values for particular BTAs, the Wireless Cable Commenters, like most sophisticated bidders, focused on two fundamental issues. First, a given BTA authorization would only be of material value if it would permit the addition of

^{2/}*Amendment of Part 74 of the Commission's Rules Governing Use of the Frequencies in the Instructional Television Fixed Service*, 9 FCC Rcd 3360, 3364 (1994).

MDS channels to the wireless cable system in the same technical configuration as the previously authorized facilities. As the Commission itself has recognized, all of the transmission facilities that a wireless cable system operator employs must conform to a common design in order to yield the identical receive signal at each subscriber's residence.^{6/} If channels are available in a given market, but cannot be deployed in the necessary configuration, the BTA authorization for that market is of little value.

Thus, in establishing values in preparation for the MDS auction, sophisticated bidders, including the Wireless Cable Commenters, determined whether by securing a given BTA authorization, they could add new MDS channels in the requisite configuration, consistent with their interference-protection obligations to incumbent MDS stations, licensed or previously proposed ITFS facilities, and neighboring BTA authorization holders.^{7/} Often, the Wireless Cable Commenters discovered that in order for a given BTA authorization to be of any value (*i.e.* for it to yield any usable channels in the appropriate configuration), they would have to secure a neighboring BTA authorization in order to add channels in the requisite configuration, because

^{6/} See Amendment of Parts 21, 43, 74, 78, and 94 of the Commission's Rules Governing Use of the Frequencies in the 2.1 GHz Bands Affecting: Private Operational-Fixed Microwave Service, Multichannel Multipoint Distribution Service, Multipoint Distribution Service, Instructional Television Fixed Service, and Cable Television Relay Service, 5 FCC Rcd 6472, 6474 (1990).

^{7/} See 47 C.F.R. §§ 21.938-21.939.

harmful interference to that neighboring BTA was predicted.² This was particularly true where the authorized incumbent MDS and ITFS stations already comprising the system were located in close proximity to the BTA boundary. In establishing a bidding strategy for such cases, the value of the additional channels to be realized for the particular wireless cable system from the auction was spread among the neighboring BTAs.

Second, even if securing a given BTA authorization would permit MDS channels to be added in the same technical configuration as the other channels, the BTA authorization would be of limited utility if a neighboring station could cause harmful interference to those additional

²The burdens imposed upon a BTA authorization holder to prevent interference to an adjoining BTA are substantial. Under Section 21.938(a) of the Rules, neighboring BTA holders "are expected to cooperate with one another by designing their stations in a manner that protects service in adjoining BTAs and PSAs, including consideration of frequency abatement techniques such as cross polarization, frequency offset, directional antennas, antenna beam tilt, EIRP decrease, reduction of antenna height, and terrain shielding." 47 C.F.R. § 21.938(a). In addition, it is the obligation of a BTA authorization holder "to correct at its expense any condition of electromagnetic interference caused to authorized MDS service" 47 C.F.R. § 21.938(c). Thus, the BTA authorization holder does not necessarily have *carte blanche* in designing its facilities *vis a vis* the facilities of its neighboring BTA authorization holder. Compounding the problem faced by BTA applicants, the Commission has reserved the right to require any MDS conditional licensee or licensee "to (a) modify the station to use cross polarization, frequency offset techniques, directional antenna, antenna beam tilt, or (b) order an equivalent isotopically radiated power decrease, a reduction in transmitting antenna height, a change in antenna location, a change in antenna radiation pattern, or a reduction in aural signal power." 47 C.F.R. § 21.939. As a result, there is substantial risk associated with developing a wireless cable system and establishing a subscriber base unless it is certain that this rule will not be invoked and facility changes mandated.

channels.^{2/} Thus, prior to the commencement of the auction sophisticated bidders like the Wireless Cable Commenters considered whether available channels would suffer interference from incumbent MDS stations, previously licensed or proposed ITFS facilities, or from potential new MDS stations that the winner of a neighboring BTA authorization could propose. In the latter case, one could mitigate the problem and gain interference-free use of available channels by securing the neighboring BTA authorization. Once again, in establishing a bidding strategy for such cases, the value of the additional channels to be realized for the particular wireless cable system was spread among two or more neighboring BTAs.

The Commission should not be surprised that wireless cable systems operators might need to secure authorizations for BTAs adjacent to those in which their systems are located. In explaining its decision to employ a simultaneous multi-round system for conducting the MDS BTA auctions, the Commission reasoned that:

we believe that the BTA service authorizations to be auctioned possess a degree of interdependence. As explained in the *Notice*, "[t]here appears to be some geographic interdependence due to coordination of interference at the borders." Indeed, because we have selected a filing approach based on predetermined geographic areas, rather than a national filing window, we emphasize that authorizations for adjacent BTA service areas will be interdependent, as common ownership of such areas will reduce problems of

^{2/}For example, it is possible for a BTA authorization holder to propose a facility that meets the -73 dBW/m² power flux density at the BTA boundary and still cause actual interference to a co-channel facility. Moreover, depending upon the timing of the applications for neighboring facilities and how the Commission resolves open questions regarding the interference obligations of a BTA authorization holder to facilities proposed after it has filed its own proposal, a BTA authorization holder may be forced to accept interference from a previously-proposed facility in an adjoining BTA.

controlling interference at the borders of the BTAs.^{10/}

Indeed, the simultaneous multiround auction system was employed by the Commission specifically to provide fairness for those who need adjoining BTA authorizations in order to secure usable facilities within one of the adjoining BTAs.

In developing bidding strategies, the Wireless Cable Commenters, and presumably other sophisticated bidders, were aware of the fact that those BTAs bordering on the Gulf of Mexico were unique — they lacked a neighbor on one side. Thus, the holder of an authorization for one of these BTAs would not have to secure a second BTA in order to reap the benefits of the BTA authorization that bordered the Gulf coast and avoid the obligations that Sections 21.938 and 21.939 of the Commission's rules impose upon BTA authorization holders.

This was a particularly critical factor in setting the valuations and developing bidding strategies for the Gulf coast BTAs, for the population densities near the Gulf of Mexico are among the highest in the region, and the prime location for wireless cable systems in these BTAs is near where the BTA borders the Gulf of Mexico. As a result, the existence of a neighboring BTA in the Gulf of Mexico would have made it particularly difficult to add additional channels to serve those areas absent ownership of the Gulf of Mexico BTA. As noted above, in such circumstances the general approach would have been to spread the value of the additional

^{10/} *Amendment of Parts 21 and 74 of the Commission's Rules With Regard to Filing Procedures in the Multipoint Distribution Service and Instructional Television Fixed Service and Implementation of Section 309(j) of the Communications Act — Competitive Bidding*, 10 FCC Rcd 9589 (1995)(citation omitted).

channels to be realized from the auction across both the desired BTA and the Gulf of Mexico BTA. However, because there was not a Gulf of Mexico BTA, bidding for the Gulf coast BTAs could reflect the full value of the additional channels. Simply put, had there been a Gulf of Mexico BTA, it is safe to assume that bidders for the BTAs on land would have placed a significantly lower value on those BTAs, for it would have been necessary to secure the Gulf of Mexico BTA in order to utilize additional channels available on land in the proper configuration and without interference.^{11/} However, because there was no Gulf of Mexico BTA, the Wireless Cable Commenters ascribed the entire value of new channels to the BTAs bordering the Gulf coast, and bid accordingly.

This is borne out by an analysis of the auction results. Nationally, the average price per bidding unit ^{12/} was approximately \$51.58.^{13/} For 472 BTAs and BTA-like areas that did not

^{11/}While the Commission clearly warned potential bidders about the risks of participating in the MDS auction resulting from the need to protect incumbents, the bidders were never advised of the possibility that new BTAs would be established and they would have to contend with potential interference issues from an MDS licensee located in the Gulf. See, e.g., Letter from FCC Chairman Reed E. Hundt to Potential Bidder, dated September 15, 1995, MDS Bidder Information Package, at 3; letter from Roy Stewart, Chief, FCC Mass Media Bureau to Potential Bidder, dated September 15, 1995, MDS Bidder Information Package, at 5; *and* Auction Procedures, Terms and Conditions, MDS Bidder Information Package, at 21-22 (describing generally requirements to protect incumbents and risks of pending rulemakings and other proceedings). Had such interference concerns been present, the Wireless Cable Commenters would have attached lower valuations to the Gulf coast BTAs, and the auction proceeds would have been diminished accordingly.

^{12/}Bidding units are generally recognized as the most significant measure of the value of a MDS BTA authorization because of the encumbered nature of the service. A bidding unit represents the Commission's estimate of the value of the available spectrum in a given BTA, and was calculated as \$0.02 per MHz per unit of population after excluding those

border the Gulf of Mexico, the price per bidding unit was approximately \$49.80. The high bids for the 21 BTAs bordering the Gulf of Mexico were almost doubled, averaging approximately \$90.71 per bidding unit! While the Wireless Cable Commenters acknowledge that numerous factors determine the price ultimately paid for a given BTA, the fact that the BTAs bordering the Gulf of Mexico were more costly than others strongly suggests that bidders took into consideration the fact that the holder of these BTAs would have a greater ability to utilize available channels in the necessary configuration without interference because they would not have a neighbor along one border. That led to higher bidding for the Gulf coast BTAs, since there was no need to bid for a neighboring BTA gulfward. In other words, those who secured BTAs bordering the Gulf of Mexico have already paid the government for the benefits they realize by not having to suffer the burdens of having a neighboring BTA authorization holder.

persons who would be unable to receive service over a given channel due to the interference protection rights of incumbents. The Commission should note, moreover, that even measured on a per unit of population basis, the BTAs bordering the Gulf of Mexico were significantly more costly than other BTAs. The average price for a BTA bordering the Gulf coast was approximately \$1.09 per person, while the average price for other BTAs was just \$0.94.

^{12/} All figures are calculated prior to adjustment for bidding credits to designated entities.

B. Adoption Of The Rules Proposed By Gulf Coast MDS Would Substantially Reduce The Ability Of The Wireless Cable Commenters And Others To Provide Wireless Cable Service To The 16.7 Million Americans Who Reside In BTAs Bordering The Gulf Of Mexico.

Moreover, the bidding for the Gulf coast BTAs did not reflect the serious adverse consequences that wireless cable systems along the Gulf of Mexico will suffer if, as Gulf Coast MDS proposes, the Commission auctions a Gulf of Mexico BTA-like service area without significantly altering its interference protection rules. Simply stated, adoption of the proposals advanced in the Petition could jeopardize the ability of the Wireless Cable Commenters and the other holders of Gulf coast BTA authorizations to provide service to the approximately 16.7 million Americans who reside in BTAs bordering the Gulf of Mexico.

As the Commission has previously recognized, propagation conditions in the Gulf of Mexico in the 2 GHz band are anything but normal. To the contrary, the Commission has acknowledged that:

certain meteorological conditions can cause unusual propagation phenomena, such as superrefraction and ducting, that can lead to much stronger radio signals beyond the radio horizon than would normally be expected. These phenomena occur for small percentages of time over most of the U.S. and for very significant percentages of time over some areas usually associated with large bodies of water and are especially prevalent in the Southern California coastal area and around the Gulf Coast. Recent long-term measurements by the Office of Science and Technology on VHF/UHF paths in Southern California showed free space fields well beyond the radio horizon for significant periods of time during some seasons of the year. These phenomena are more prevalent at microwave frequencies than at VHF and UHF and can be expected to result in interfering signal levels in the 2100-2600 MHz band under certain circumstances.¹⁴

¹⁴ *In the Matter of Amendments of Parts 21, 74 and 94 of the Commission's Rules and Regulations with Regard to the Technical Requirements Applicable to the Multipoint Distribution Service, the Instructional Television Fixed Service and the Private Operational-*

Moreover, experience has shown that these unusual propagation characteristics are impossible to accurately model, making it impossible to accurately predict potential interference where MDS and ITFS signals are transmitted over large bodies of water.

Despite its presumed familiarity with the difficult operating conditions in the Gulf of Mexico, Gulf Coast MDS does not propose any alterations in the Commission's general rules governing the interference protection rights and obligations of BTA authorization holders. Yet, application of the general rules to a Gulf of Mexico BTA would have serious adverse consequences for incumbent MDS licensees, grandfathered ITFS licensees operating on MDS channels, and the holders of BTA authorizations along the Gulf coast. In light of these propagation phenomena, difficult, if not insurmountable, technical difficulties will be faced not just by those that propose to operate in the Gulf of Mexico, but also those that operate on land near the Gulf coast and must protect operations in the Gulf of Mexico. Given, as is discussed *infra*, that the demand for MDS service in the Gulf of Mexico is at best speculative, the public interest is best served by not establishing a Gulf of Mexico BTA that would have the same rights as the holders of previously-auctioned Gulf coast BTAs, particularly at this late date.

As noted *supra* at note 6, the Commission has imposed significant obligations upon BTA

Fixed Microwave Service (OFS), Amendment of Part 21 of the Commission's Rules to Make the Prior Coordination Requirement of Subsection 21.100(d) Applicable to the Multipoint Distribution Service, and Amendment of Part 21 of the Commission's Rules to Define the Interference Studies Required by Subsection 21.902(c) and to Establish Minimum Criteria for the Acceptance of Newly Filed Applications Proposing the Construction of New MDS Stations with the Amendment of Existing MDS Authorizations, 98 F.C.C. 2d 68, 98 (1984).

authorization holders to avoid interference to their neighbors. Quite frankly, given the long distances 2 GHz signals travel over water and the unpredictability of those signals, the Wireless Cable Commenters are at a loss to explain how Gulf Coast MDS intends to develop a system that will operate in the Gulf of Mexico without causing interference to the protected service area of adjoining BTAs, incumbent MDS stations and ITFS licensees. The Wireless Cable Commenters take some solace in the fact that Section 21.938(c) would obligate the Gulf of Mexico BTA holder "to correct at its expense any condition of electromagnetic interference caused to authorized MDS service . . .", and the Commission has reserved the right under Section 21.939 to require any MDS conditional licensee or licensee "to (a) modify the station to use cross polarization, frequency offset techniques, directional antenna, antenna beam tilt, or (b) order an equivalent isotropically radiated power decrease, a reduction in transmitting antenna height, a change in antenna location, a change in antenna radiation pattern, or a reduction in aural signal power" when necessary to avoid interference. However, until the Commission can invoke its authority and mandate any necessary changes, wireless cable subscribers along the Gulf coast face the prospect of unpredictable interference from the Gulf of Mexico BTA.

More importantly, the Wireless Cable Commenters believe that under Gulf Coast MDS's proposal, wireless cable systems along the Gulf coast might have to make substantial modifications that would reduce their ability to provide service to the 16.7 million people residing in Gulf coast BTAs, just to meet their interference protection obligations under the existing rules to a Gulf of Mexico BTA authorization holder. The wireless cable systems that the Wireless

Cable Commenters are operating and developing have been designed to optimize coverage over land. Since those systems have been designed in an environment without a Gulf of Mexico BTA-like service area, they have been designed without regard to the potential for interference to a Gulf of Mexico BTA. Were the Commission to establish a Gulf of Mexico BTA-like service area and mandate that systems in BTAs bordering the Gulf of Mexico afford the level of interference protection contemplated by Section 21.938 of the Rules, MDS stations comprising the Gulf coast wireless cable systems could be forced under Section 21.938 to incur substantial interference-elimination expenses and could be required under Section 21.939 of the Rules to make significant modifications to their stations (including use of directional antennas that reduce coverage, the use of exaggerated beam tilts that limit the radio horizon, decreases in power that reduce coverage and changes in antenna location to less favorable positions) that would substantially jeopardize their ability to provide wireless cable services over land.

This is particularly true given the unique propagation characteristics facing those operating near the Gulf. Because signals tend to relay far past the normal radio horizon, and do so in unpredictable fashion, many of the traditional interference-reduction techniques are of no utility. To avoid interference in this sort of environment, those operating wireless cable systems on land may be forced to take draconian measures to protect the use of MDS channels by the oil and gas industry in the Gulf of Mexico contemplated by the Petition from unpredictable interference — measures that will reduce coverage to the population centers along the Gulf coast. Thus, the burden of complying with Sections 21.938 and 21.939 is likely to be extremely heavy for those

operating wireless cable systems in BTAs that adjoin the Gulf of Mexico.

Moreover, Gulf Coast MDS's approach cannot be squared with the Commission's general philosophy that one must accept the interference situation as one finds it, and that interference protection obligations to newcomers should not be imposed on previously proposed facilities. Unless the Commission makes clear that BTA authorization holders along the Gulf of Mexico will have no obligation to cure actual interference suffered by the Gulf of Mexico authorization holder, and that the Commission will not invoke its authority under Section 21.939 for the benefit of the Gulf of Mexico authorization holder, establishment of a Gulf of Mexico BTA-like service area will likely have serious adverse consequences for wireless cable systems all along the Gulf coast.^{12/}

C. Gulf Coast MDS Has Failed To Demonstrate That The Benefits Of A Gulf of Mexico BTA-Like Service Area Outweigh The Substantial Adverse Impact That Will Be Imposed On The Ability Of The Wireless Cable Commenters and Others To Serve The 16.7 Million Residents Of BTAs Bordering the Gulf.

Finally, the Commission should note that Gulf Coast MDS has failed to establish that there is a demand for services in the Gulf of Mexico that cannot be met through other available spectrum -- spectrum that can be deployed without the risk of significant interference to the

^{12/}Similarly, the Commission should address a problem will be faced by MDS licensees proposing to modify their facilities. Under the rules, they must demonstrate that those modification will not cause the power flux density to exceed -73 dBW/m² at the boundary of their protected service area. 47 C.F.R. § 21.902(b)(5)(i). The Commission should make clear that so long as the predicted signal meets that standard, assuming 4/3 earth curvature and normal propagation, the MDS licensee has no further obligation to the Gulf of Mexico BTA holder should the signal propagate further.

provision of wireless cable service along the Gulf of Mexico borders. Gulf Coast MDS concedes that it has no intention of providing traditional wireless cable service in the Gulf; rather, it admits that it "desires to provide digital telecommunications, including voice and data services, to the oil and gas industry in the Gulf of Mexico."^{16/} While the Petition summarily asserts that "[m]any of these telecommunications needs are not being met by currently authorized services in the Gulf of Mexico, such as point-to-point microwave, very small aperture terminal (VSAT) systems and cellular communications," the Petition does not even allege, much less establish, that these other technologies are incapable of meeting whatever demand there is. That a demand is not being met by alternatives is one thing, that it cannot be met by alternatives is quite another. Unfortunately, Gulf Coast MDS's Petition is coy with regard to the services that Gulf Coast MDS contemplates offering, so the Wireless Cable Commenters are unable to establish that other spectrum is available to provide those services. As a result, the Wireless Cable Commenters can say little more other than that the Petition has failed to demonstrate that a Gulf of Mexico BTA-like service area would be so beneficial to the oil and gas industry that wireless cable service to the over 16.7 million people residing in the BTAs that border the Gulf of Mexico should be jeopardized.

^{16/}Petition, at 2. While the Wireless Cable Commenters do not oppose the use of MDS and ITFS channel capacity for alternative services, they firmly believe that those who propose such use must demonstrate non-interference to those entitled to interference protection.